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# United States Department of Agriculture,

BUREAU OF PLANT INDUSTRY,

SEED AND PLANT INTRODUCTION AND DISTRIBUTION,

WASHINGTON, D. C.

## WILT-RESISTANT JACKSON COTTON.

### DESCRIPTION.

This cotton is a strain derived from the Jackson Limbless variety by the selection of plants resistant to wilt when grown on badly infected land. The Department of Agriculture began its work on the problem of producing a wilt-resistant Upland cotton in 1900, when 18 varieties were planted on badly infected land to test their resistance to the disease. The result was that all varieties of Upland cotton, except the Jackson, were nearly destroyed. This one variety was partially resistant, its average condition being estimated at 453 on a scale of 1,000, as compared with an average of 114 for the other varieties. Seed was saved from the most resistant stalks, and this was planted in 1901 on the same land, when the selection was repeated. This strain was tested on infected land in 1902 and 1903 with good results. It is believed that the resistance to wilt has been considerably increased over the original Jackson. The other characters of that variety have been retained. The plant is nearly limbless, except for one or two large branches from near the ground, erect, tall; bolls medium size, clustered; seed small, gray-tufted. It is one of the most productive varieties.

### DIRECTIONS FOR PLANTING.

Plant in rows 4 feet apart and leave the plants closer in the row than with most other varieties. The distance should be 8 to 18 inches, according to the fertility of the land. Select land that is badly infected with wilt, in order to thoroughly test its resistance, but do not plant on wet or barren land, as the seed has cost much time and money and it is important that the best conditions should be provided for the test.

### SAVING SEED.

If the results of your trial of this seed are satisfactory, exercise great care in saving seed, as it will be difficult to get more. If any plants become diseased, they should be pulled and removed before picking, to avoid the deterioration in quality that would result if seeds from diseased plants were picked with the rest.

To keep up the quality of this variety the adoption of a system of selection of seed from the best plants is recommended. That is easily done by either of the two methods described below:

1. Before picking, go over the field carefully and mark with a cloth the plants that are true to the type of the variety as regards form of



plant, size and form of bolls, productiveness, earliness, etc. Let these plants be picked together and the seed ginned by itself. If not enough seed is obtained to plant the whole crop, use it to plant a special seed patch that will furnish seed for the main crop the next year.

2. A better method, involving only a little more trouble, is to select from the general field a few plants of the greatest excellence, marking them with a cloth. Leave these unpicked till the middle of the season, then compare them critically with reference to productiveness and quality of staple, resistance to wilt, etc., and choose from this number a single plant which combines the most desirable qualities. Save all the seed carefully and plant separate from the main crop the next year, one seed in a hill, to secure as great a yield as possible. This cotton planted by itself each time will give sufficient seed the third year to plant the whole crop. This selection should be carried out every year. The propagation from single plants insures a uniformity that can be secured in no other way.

For a full account of methods of seed selection, read the article on "Improvement of Cotton by Seed Selection," by H. J. Webber, in the Yearbook of the United States Department of Agriculture for 1902.

It is the intention of the Department of Agriculture to distribute this seed only to those who will care for it and preserve it unmixed with other varieties.

### **AVOID ROOT-KNOT.**

Much of the wilt-infected land in the Gulf States is also full of root-knot and the two diseases combined are a serious hindrance to cotton culture. The wilt disease produces a wilting of the plant and a black discoloration of the inner wood, while the root-knot worm causes irregular swellings on the roots of cotton, as well as on cowpeas, peaches, etc. The wilt-resistant Jackson cotton has not been bred for resistance to root-knot; hence it should not be planted on land infested with it until after two years of rotation with immune crops, such as oats, corn, Iron cowpeas, beggarweed, velvet bean, etc.

### **REPORT RESULTS.**

Please assist the Department of Agriculture by reporting fully on the result of your trial of this cotton. A record is kept of all who receive seed and an inquiry will be sent to each one at the end of the season.

W. A. ORTON,  
*Pathologist.*

Approved:

A. F. WOODS,  
*Pathologist and Physiologist.*

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